

Chinese Paleontologists Extend Helping Hand to Fire-devastated National Museum of Brazil

By SONG Jianlan (Staff Reporter)

Recently, the Society of Vertebrate Paleontology of China (SVPC) released a Written Proposal, calling on the wider Chinese academic community, including museums, universities and research institutes, to render support to the National Museum (*Museu Nacional*, later referred to as MN) of Brazil,

which was tragically reduced to ruins by a devastating fire in September 2018.

This appeal, which was made at the closing ceremony of the 16th Annual Meeting of SVPC, held in Hefei, capital city of Anhui Province of China, marks the latest move of Chinese paleontologists in supporting MN.



The main building of the National Museum of Brazil as it looked in 2011. It used to be the residence of the Portuguese Royal Family and the Brazilian Imperial Family. (Photo by Halley Pacheco de Oliveira; Credit: Wikimedia commons)

A Firm Hand from IVPP

The Institute of Vertebrate Paleontology and Paleoanthropology (IVPP), Chinese Academy of Sciences (CAS) had offered its strong support for MN prior to the SVPC conference, promising to exchange fossil specimens with MN immediately and to donate model specimens to the museum once its reconstruction is completed.

Former residence of the Portuguese Royal Family between 1808 and 1821 and later of the Brazilian Imperial Family between 1822 and 1889, the main building of MN, the *Paço de São Cristóvão* (Saint Christopher's Palace) is in itself of inestimable historical value. Unfortunately, this historical and cultural treasure was reduced to ruins in a fire that broke out on September 2, 2018. Forever lost in the fire were countless cultural relics and specimens, a majority of MN's cherished collection accumulated over the past two centuries, at a time when MN had just celebrated its 200th anniversary. Now, months after the conflagration, experts are still working desperately to rescue as many items as possible from the ruins.

"The tragedy is not only a loss for museums of the whole world, but also sounds the alarm of the need of effective fire protection for museums everywhere," states the Written Proposal. In the initiative, SVPC urges museums, universities and institutes across China to express their moral support for MN: "At such a difficult time, all social circles should show a strong moral support to all members of the museum's staff, who are still working on the rescue and reconstruction of this important institution."

Further, the Written Proposal suggests these institutions consider donating specimens and cultural artifacts to the rebuilt MN in the future. "... the *Museu Nacional* underwent a huge loss in the fire. Although the recovery of specimens is still in progress, it is certain that several valuable items were destroyed, and the loss is irreparable," says the Proposal, indicating that donation from China will be an important help and support for the museum.

"It Is on All of Us"

"To understand the origin and evolution of biological species is the common mission on all paleontologists around the world," commented Prof. DENG Tao, President of SVPC and Director of IVPP, when asked of

the initial motivation for making the Written Proposal.

IVPP has taken the lead in offering a hand to MN. "We have promised to donate model specimens to the new MN, when it is completed," said DENG. Due to the export restriction for cultural relics and fossil vertebrate animals imposed by the laws of China, however, IVPP will only be able to donate models and duplicates of fossil specimens, with exceptions for redundant specimens of fossil animals.

"Prof. Alex Kellner, who is now the Curator of MN, has been in long-term cooperation with us," said DENG. "Also, he has mediated collaborations between many Brazilian paleontologists and IVPP counterparts." DENG noted that the disaster in some way promoted this cooperation to a new level: the painful, serious loss



The Written Proposal for supporting MN as released at the closing ceremony of the 16th Academic Conference of SVPC November 12 in Hefei, Anhui, China. (Photo by courtesy of IVPP)

prompted us to consider exchanges of fossil specimens with MN, as this will help them a lot at this difficult time. Further he explained that an exhibition of natural history shall represent the global evolution of species, and specimens from China will make an indispensable patch to this mosaic. "In addition, we will donate a number of model specimens of some important species with representative characteristics or unique to China. We have also signed an agreement with MN, in which we offer to present a small exhibition of fossil specimens from China at the rebuilt museum, as a special gift to its rebirth," said DENG.

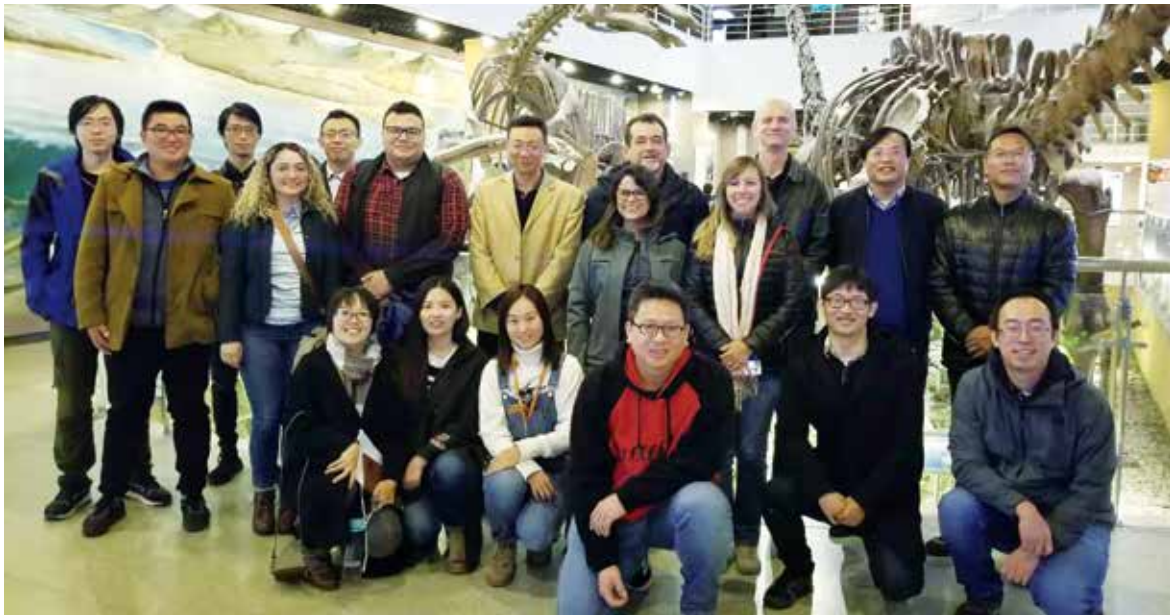
Highlighted in this future exhibition at MN will be pterosaurs, on which the two sides have long been working together; and other fossil dinosaurs and early birds, on which IVPP has made marvelous research of global significance. "Of course, the exhibition will cover other fossil vertebrates," added DENG. "You know dinosaurs and early birds are not the only targets of IVPP," he noted. "We study also early fishes, reptiles, amphibians, mammals, and humans."

According to DENG, IVPP has now already started

working to prepare for the future exhibition at MN, to make sure it will open in time as planned, in nice presentation.

Moreover, IVPP is providing some technological aid in repairing the fossil specimens damaged in the fire. "IVPP owns the biggest technical team for fossil repairing in the world," said DENG. With their advanced techniques, this team will help MN with the restoration of damaged items. Further, IVPP will also provide advice on the design of the future architecture structures, in particular those pertaining to paleontological exhibitions. "We will offer some intellectual properties for free, including those of technologies needed in visual presentation and ecological reconstruction based on fossil record, and more," said DENG.

"We will help MN substantially; but this is not enough," emphasized DENG. "MN is a comprehensive museum that presents not only knowledge of natural science like general museums of natural history, but also knowledge of culture and humanities. Therefore, we hope that academic institutions in China, from universities to museums and institutes, will join us to offer their support."



Prof. Alexander Kellner (right third on the back row), Curator of MN and long-term cooperater with IVPP scientists, poses with the hosts in the exhibition hall of the Paleozoological Museum affiliated with IVPP, during his visit to the institute before the SVPC conference in Hefei. Seen in the photo are some of his long-term cooperaters at IVPP: Prof. ZHOU Zhonghe (fifth right on the back), Member of CAS and Corresponding Member of BAS; Prof. DENG Tao (right second on the back), Director of IVPP and President of SVPC; and Prof. WANG Xiaolin (right first, back row), pterosaur expert, Corresponding Member of BAS. (Photo by courtesy of IVPP)



Prof. Alexander Kellner introduces the glorious history and the current situation after the tragic fire at the Annual Meeting of the Society of Vertebrate Paleontology of China held November in Hefei, Anhui, China. "We have no time to cry," he says, "we have got to work!" For now, the staffs are working desperately to restore the collection from the ruins. (Photo by courtesy of IVPP)

China Pavilion at MN

"We are thinking about erecting a special China Pavilion for donations from China," said Prof. Alexander Kellner, who is Curator of MN as noted, and is also a Member of the Brazilian Academy of Sciences (BAS). He had just paid a visit to IVPP in Beijing, with which his research group has been in close partnership since two decades ago, in an effort to rally support. IVPP offered a firm hand quickly; and further it played an instrumental role in initiating the Proposal that had just been aired to the whole Chinese academic circle at the SVPC conference.

"CAS has a lot of museums under its umbrella, and they might be willing to offer their own help," said Prof. ZHOU Zhonghe, Member of CAS and Corresponding Member of BAS, who is also the former Director of IVPP and former President of SVPC. Among these museums is the Paleozoological Museum of China. ZHOU has been among the advocates for soliciting support from the wider

academic community of China.

"Yes, we have already got substantial support from IVPP," affirmed Kellner, "with which we have already been in academic exchanges and cooperative research for decades." At the invitation of Prof. WANG Xiaolin at IVPP, his long-term collaborator and now a Corresponding Member of BAS, he had decided to attend the SVPC conference prior to September when the mishap fire occurred. "I originally prepared to speak something about pterosaurs from Brazil, on which we have made many interesting discoveries, but I changed my mind after the disaster. I would take this opportunity to rally wider support from the whole community," he said, expressing his gratefulness for WANG's invitation and enthusiastic support.

Prof. Kellner has been travelling around the world to solicit support from professional colleagues, and has so far won support from over one hundred museums, universities and other scientific institutions across the world.



Prof. Alexander Kellner (on the back), Member of BAS and now Curator of MN, has been in long-term cooperative research on pterosaurs with Prof. WANG Xiaolin (second left) at IVPP, now Corresponding Member of BAS. Shown is a snapshot from their fieldwork in the Gobi Desert of Hami, Xinjiang Autonomous Region, China. Dr. CHENG Xin (left first), who has just finished his PhD under supervision of Prof. WANG, joined Prof. Kellner's group for post-doctoral research lately. Dr. JIANG Shunxing (second right), who also earned his PhD under supervision of Prof. WANG, has since been working at IVPP in pursuit of pterosaur research. (Photo by courtesy of IVPP)

According to Kellner, the number of items burnt in the fire is not possible to know yet. "But the good news is that archaeological specimens, represented by the cranium of the 'Luzia Woman,' are mostly in good condition," he said.

The fragmental skeleton of "Luzia Woman," unearthed from a cave in Brazil in 1974, represents a young Paleo-Indian woman from about 11,500 years ago, who is believed by some archaeologists to be among the first humans who emigrated to the South America. She was nicknamed "Luzia" by the archaeologists to pay homage to "Lucy," an *Australopithecus* fossil skeleton discovered in Ethiopia, Africa in the same year as "Luzia" – 1974, from strata of about 3.2 million years old.

"Thankfully, the majority of the collection of fossil plants and invertebrate animals, as well as some fossil vertebrates like turtles, are not so badly damaged," Kellner said, adding that the rescue and restoration will be finished in the next four to five months, and the reconstruction of the main building is expected to be completed in 2022 or 2023.

Kellner became curator of MN only last February, six months before the devastating fire. It took him a while to make up his mind to run for the curatorship.

He was hesitant as he was aware that this would mean a big turning point in his life – the potential new role might deprive him partially of the enjoyment as a pure scientist. "But I wanted to make a difference," he said when interviewed by the author. After working for the museum for decades, he believed that he knew what the staff of MN and the public of Brazil most wanted to change in MN, and would set to work for that. He eventually campaigned for the position, and won it. After much lobbying, he succeeded in winning support from the Brazilian government for funding to update the worn-out facilities of MN; however, the money only came AFTER the fire.

"It came eventually, but it was too late," said Kellner, in a sense of rationality distilled from long, difficult struggles to accept the reality.

"But we have no time to cry," he said. "We have got to work. For sure, we will work hard to restore the pieces in the museum; and we will work hard to deserve the donations from China and other parts of the world," Kellner again expressed his gratitude to IVPP and SVPC.

"The exhibition in the China Pavilion will go beyond fossils of early vertebrate animals," Kellner noted. "It will include all areas of history, culture and science."

“This bitter lesson tolls the bell; it is a wake-up call for other museums,” said Prof. WANG, Kellner’s cooperater at IVPP, who is an expert at pterosaurs. “You could never be too careful when it comes to fire prevention,” he said.

“We need your help. Please write to express your moral support for the reconstruction,” said Kellner at a plenary speech at the 16th Annual Meeting of SVPC, after he had concluded his comments on the history of his dear museum and its current situation. “It would be even better, if you would consider donating some items for the future new museum,” he added, “But it is OK if not.”

MN has set up a special email address direcao@mn.ufjf.br to receive voices of support from all over the world. Write to them – They need your support NOW!

Pterosaurs of a Feather Across Continents

Now Prof. Kellner has left for a new journey to the Antarctica for fieldwork. Gone with him is Dr. CHENG Xin, who has just earned his PhD degree under supervision of Prof. WANG Xiaolin at IVPP and joined Prof. Kellner’s group for post-doctoral research.

All this is so natural a development of their long-term cooperation. “It’s been a long time,” recalled Dr. Taissa Rodrigues, Brazilian pterosaur expert from Federal University of Espírito Santo, when asked of the detail of their cooperation with Prof. WANG Xiaolin at IVPP. She did her PhD under supervision of Prof. Kellner around 10 years ago and also took part in the research of *Hamipterus*, a pterosaur found in Hami, Xinjiang Autonomous Region, China. “I remember I came over to Beijing to attend a pterosaur conference in 2010, at that time I was a PhD student. We have been working together on this for over ten years I think.”

“The pterosaur assemblages found in western Liaoning (Jehol Biota) are quite similar to those from Brazil, that interested Alex and he came over for cooperative research. We have since been close cooperators and friends,” explained Prof. WANG when



A result from the long-term cooperation between Prof. WANG Xiaolin from IVPP and Prof. Alexander Kellner, the discovery of 3D-preserved fossil embryos and eggs of *Hamipterus tianshanensis*, a pterosaur whose live reconstruction is shown here, hit headlines when it was published in *Science* in December 2017. (Image by ZHAO Chuang)

asked of how they started to work together.

This extended cooperation went beyond Jehol Biota and has fruited a lot. Well-known in their research is above-mentioned *Hamipterus*, whose 3D-preserved embryos and eggs impressed the world. In the near future, this winged creature will witness the rebirth of MN.